

Research on the Composition and Cultivation Path of Core Competitiveness of County-Level Prepared Vegetable Processing Enterprises

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Abstract: This paper analyzes the core competitiveness of county-level prepared vegetable processing enterprises, examining their actual development status and major difficulties in the context of agricultural modernization and rural revitalization strategies. Taking county-level prepared vegetable processing enterprises as the research object, it deconstructs the elements of their core competitiveness and improvement paths, and combines relevant theories such as the resource-based view and dynamic capabilities to explain the influence of factors such as resource integration, technological innovation, and management optimization on enterprise competitiveness. Through field research and data analysis, the operational performance of enterprises is identified, and corresponding improvement suggestions are put forward. The results indicate that enterprises need to strengthen internal management, improve technological levels, and expand market channels. At the same time, this paper points out the shortcomings of the research and suggests that future studies should conduct more detailed analyses of issues such as policy support and industry collaboration to provide references for enterprise practice.

1. Introduction

Increasing innovation investment in agricultural product processing enterprises is a crucial driver for rural industrial revitalization and high-quality agricultural development ^[1], County-level ready-to-cook vegetable processing enterprises serve as key nodes in the process of agricultural modernization, and their role is becoming increasingly important. The revitalization of county-level rural industries requires the collaborative participation of multiple parties to achieve sustainable development. Prepared vegetable processing enterprises carry out deep processing of vegetables, which can not only increase the added value of agricultural products, alleviate “difficulties in sales” and low prices, but also force the planting end to unify varieties and control pesticide residues, while reducing kitchen waste. Currently, the county-level prepared vegetable industry faces enormous market opportunities as consumer demand for convenient food continues to grow. However, many county-level enterprises are constrained by factors such as capital and technology during their development, still having obvious shortcomings in areas such as cold chain logistics, and product

homogenization is relatively serious.

Against this background, research on core competitiveness is of great significance. Core competitiveness is an important foundation for enterprises to continuously obtain competitive advantages. Clarifying its constituent elements and cultivation paths helps enterprises break away from low-level competition and has important practical guiding value. This paper analyzes the internal and external environments of county-level prepared vegetable processing enterprises, identifies key factors affecting enterprise competitiveness, and proposes corresponding improvement strategies to optimize resource allocation, improve operational efficiency, and enhance brand influence. It also provides a reference for local governments in formulating industrial policies to promote high-quality development of the county economy.

2. Conceptual Overview

County-level prepared vegetable processing enterprises are located within the county scope, relying on local agricultural product resources to carry out standardized processing of fresh vegetables, including grading, washing, cutting, and packaging. The processed prepared vegetable products are distributed to the catering industry or retail markets. Enterprises are usually located close to raw material production areas, showing obvious geographical dependence. This practice can reduce logistics costs, ensure the freshness of ingredients, and become an important link connecting farmland to the dining table. With the continuous development of the regional economy, such enterprises extend the agricultural industry chain through their operations, increase the added value of agricultural products, drive farmers' employment, and promote the transformation of agricultural industrialization. Research indicates that the development mode of the county economy plays an important role in promoting the extension of the agricultural industry chain and the increase of agricultural product added value. Core competitiveness refers to the key factors that enable enterprises to survive and achieve good development in fierce market competition. For county-level prepared vegetable processing enterprises, their competitiveness is not only reflected in advanced production equipment or processing technology but also includes supply chain integration capabilities, product quality control capabilities, and regional brand building capabilities. Competitiveness is formed by the interaction of internal and external resources and opportunities of the enterprise, determining whether the enterprise can achieve stable growth amid market fluctuations, and also serves as the theoretical basis for analyzing enterprise cultivation paths.

3. Theoretical Analysis

According to statistics, between 2020 and 2025, the scale of China's prepared vegetable processing market grew from 32.2 billion yuan to 102.3 billion yuan, showing a rapid expansion trend.

The actual competitiveness of county-level prepared vegetable processing enterprises does not rely on capital accumulation or blind expansion of production scale, but rather originates from a kind of localized growth force -- the ability of enterprises to accurately identify, deeply bind, and recreate value from local unique, difficult-to-migrate, highly adaptable agricultural resources. This competitiveness is not simply about owning resources, but is achieved through "weaving a network": enterprises utilize stable agricultural-enterprise cooperation methods formed over many years, order-driven contractual production models, and standardized planting bases jointly built and managed with farmers, transforming the source of high-quality county fresh vegetables into a structural supply network that is schedulable, guaranteed, and traceable.

In short, this resource endowment is not static but can continuously realize value transformation: it stabilizes the basic supply chain, ensuring no shortage of raw materials, no decline in quality, and no loss of cost control; at the same time, it supports the upward channel of the value chain, enabling

enterprises to gain strong bargaining power in high-value-added links such as grading and standardization, customized orders, and nutritional empowerment.

However, the uncertainty of the macro environment is constantly increasing, and relying solely on locking in resources cannot build a true moat. Dynamic capability theory proposes that the main manifestation of competitiveness is not static asset stock, but whether enterprises can keenly discover market turning points, analyze the logic of technological evolution, and quickly reorganize internal processes. This judgment is confirmed by data from China's prepared vegetable processing industry: the market size of this field grew to 102.3 billion yuan by 2025, with an average annual growth rate of 25.8%. Prepared food processing empowers rural industrial revitalization through industrial system composition, industrial factor support, and industrial functional roles ^[2]. Factors such as increasing urbanization rate, extension of the pre-prepared meal industry chain, community group buying and fresh food e-commerce, and consumers' dual demand for convenience and quality have jointly driven the rapid growth of the prepared vegetable market.

If enterprises still follow the traditional linear model of “collecting vegetables -- washing -- cutting -- boxing”, they will easily fall into the red ocean competition of low-level involution. The solution lies in cultivating rapid response capabilities, organically combining strengthening organizational coordination, increasing capital investment, and enhancing technological upgrading. In response to the current low level of specialization in the vegetable industry, agricultural producers and operators are cultivating vegetable products with local industrial characteristics and developing advantageous vegetable production areas across different regions ^[3]. In practical operation, enterprises should take the lead in establishing county-level industrial consortia, incorporating cooperatives, family farms, large planting households, and primary processing workshops, achieving shared benefits, shared risks, consistent standards, and direct data connection. At the same time, enterprises should precisely undertake special funds for modern agriculture from provinces, cities, and districts, transforming them into a boost for production line upgrades: launching intelligent equipment such as ozone micro-bubble washing systems, AI vision sorters, and modified atmosphere fresh-keeping packaging lines. The resulting outcome is not only improved sorting speed or reduced loss rate, but a complete closed loop. This tightly connected link is precisely the result of the interweaving and common development of regional resource endowments and digital technology potential, enabling county-level prepared vegetable enterprises to achieve an important transformation from “guarding good raw materials” to “playing with new variables”. This practical sample, rooted in the soil and embracing code, has both theoretical depth and operational warmth, providing a tangible, replicable, and evolvable new high-quality development path for the breakthrough of county-level agricultural industrialization.

4. Empirical Research Design

According to statistics, the total output value of the prepared vegetable processing industry was 45 billion yuan in 2023 and increased to 70 billion yuan in 2025; total production capacity was 15 million tons in 2025, with total output of 13.2 million tons, and capacity utilization rate of 88%. In 2024, there were 1,200 prepared vegetable processing enterprises nationwide, of which enterprises with an annual output value exceeding 100 million yuan accounted for 15%, and the market share of leading enterprises was 58%, which is expected to rise to 65% in 2025. The weights of core competitiveness evaluation indicators are: technology R&D and innovation capability 30%, supply chain operation and management capability 25%, product quality control capability 20%, after-sales service and customer maintenance capability 15%, brand market influence 10%.

This study takes the high-quality development of the county economy as the background, focuses on the strategic niche of prepared vegetable processing, which has both livelihood attributes, rural revitalization functions, and characteristics of the modern food industry, and constructs an empirical

research paradigm linking “theory -- practice -- policy”. With the deepening of the rural revitalization strategy, continuous iteration of consumption scenarios, and increasing policy support, the county-level prepared vegetable processing industry is accelerating its transformation and upgrading, with huge future development potential. Profound changes on the market demand side have exerted a significant pulling effect on the supply chains of county-level agricultural product enterprises, driving them to meet the new requirements of the consumer market through digital transformation and upgrading ^[4].

Based on this, this study adopts a combination of stratified sampling and typical case screening, selecting Jiangyan District, Taizhou City, Jiangsu Province as a typical case area for empirical investigation. This area is an important agricultural product processing cluster in the Yangtze River Delta region, and the number, types, and growth paths of its prepared vegetable processing enterprises are typically representative. There are approximately 299 agricultural and sideline food processing enterprises registered in the industrial and commercial registration categories (including grain milling, feed, vegetable oil, aquatic product processing, etc.), among which there are 22 agricultural product deep-processing enterprises (as of 2022). By sorting out enterprise data under different statistical calibers, the scale structure, development level, and transformation potential of county-level prepared vegetable processing entities can be more accurately identified, thereby materializing abstract competitiveness elements into measurable and comparable practical indicators, laying the foundation for subsequent in-depth analysis of the actual effectiveness of technology application, supply chain integration, and brand building.

To deeply analyze the internal mechanism of competitiveness formation of prepared vegetable processing enterprises in Jiangyan District, after completing the theoretical framework construction and regional representativeness confirmation, this paper further focuses on its policy practice level. This district does not rely on single-factor support but systematically transforms theoretical propositions such as digital transformation, cold chain upgrading, and brand cultivation into operable, quantifiable, and evaluable supporting measures. Through the five-dimensional synergy of financial guidance, infrastructure support, innovation incentives, and ecological construction, Jiangyan District substantially bridges the gap between theoretical concepts and industrial implementation, allowing the aforementioned competitiveness elements to concretely generate and dynamically evolve in real scenarios, and providing a solid policy context and practical reference framework for subsequent empirical analysis. The analysis shows that enterprises can enhance their market expansion capability and achieve high-quality development by optimizing resource allocation and increasing industrial chain resilience. If small and medium-sized enterprises want to break through their bottlenecks, they need to use digital and intelligent means to improve production links and management efficiency, while fully tapping into regional characteristic agricultural product resources, increasing product added value through brand building, thereby obtaining space for sustainable development.

In terms of theoretical anchoring, this paper does not simply apply classic SME growth models. Instead, it integrates the resource-based view (RBV), dynamic capabilities theory, and the institutional entrepreneurship perspective in light of the characteristics of county-level industrial organization, proposing three progressive research hypotheses: First, an enterprise’s core competitiveness is not a pile of static resources but a dynamic combination of capabilities composed of technological innovation potential, supply chain resilience, quality governance effectiveness, and brand mental share. Second, the impact of these elements on market share exhibits a non-linear threshold effect: after the market share of leading enterprises exceeds the critical point of 55%, the marginal contribution of technology and management will increase significantly. Third, under the dual institutional environment of county-level acquaintance society and strong policy guidance, soft capabilities such as government-enterprise trust, stability of farmer cooperation, and emergency supply response capacity are becoming new sources of differentiated competitive advantage.

This paper also introduces the characteristic sub-item of “county-level adaptability”, including observation variables reflecting social value such as proportion of local raw material procurement, number of jobs driven, and number of local standards participated in formulating. Ultimately, the weight of technology R&D and innovation capability is determined to be 30%. This capability is the main driver for industrial breakthrough. Cutting-edge technologies such as AI visual sorting and low-temperature vacuum fresh-keeping can improve product consistency, extend shelf life, and reduce loss rates. The weight of supply chain operation and management capability is 25%, mainly focusing on the efficiency of the entire “procurement -- storage -- processing -- distribution -- traceability” chain, paying attention to indicators with practical application value such as cold chain breakpoint repair rate, order delivery punctuality rate, and flexible production scheduling response cycle. Product quality control capability (20%) focuses on whole-process risk prevention and control, including rigid requirements such as the pass rate of rapid pesticide residue testing on raw materials and the operational effectiveness of the HACCP model. Full life cycle service capability includes after-sales service response time, customer complaint closure rate, and customized menu development capability. Policy support is indispensable for industrial development, and appropriately implementing targeted policy subsidies can effectively enhance product competitiveness^[5]. Regional brand market influence includes geographical indication certification level and local government procurement share, both of which together constitute the soft support for sustainable enterprise development. The above quantitative model can accurately identify the capability shortcomings and improvement paths of enterprises at different tiers, and provide a reliable data foundation and decision-making reference for local governments to formulate differentiated support measures, for industrial parks to optimize investment attraction maps, and for financial institutions to design special credit products.

5. Experimental Results and Analysis

From 2020 to 2024, large-scale county-level prepared vegetable processing enterprises outperformed small and medium-sized enterprises in three aspects: resource acquisition, technology application, and market expansion. For large enterprises, the proportion of raw material procurement costs to revenue decreased from 62.4% to 57.8%; for small and medium-sized enterprises, it decreased from 71.8% to 67.2%. The proportion of R&D investment for large enterprises increased from 3.1% to 5.7%; for small and medium-sized enterprises, it increased from 0.8% to 1.6%. The annual revenue growth rate of large enterprises increased from 8.7% to 14.6%; for small and medium-sized enterprises, it increased from 4.2% to 9.1%.

Field research and data analysis show that county-level prepared vegetable processing enterprises exhibit relatively obvious scale differentiation in their core competitiveness elements. In terms of resource acquisition capability, large enterprises can rely on their scale advantages to control raw material procurement costs, with the proportion of such costs to revenue showing a downward trend, from 62.4% in 2020 to 57.8% in 2024; while for small and medium-sized enterprises, this proportion only slightly adjusted from 71.8% to 67.2%, indicating that large enterprises have stronger bargaining power in supply chain integration and supplier management. Research points out that the development of e-commerce has a significant impact on the organizational restructuring of small farmers, which is conducive to promoting the implementation of the rural revitalization strategy. In terms of technology application capability, the proportion of R&D investment for large enterprises increased from 3.1% to 5.7%, while small and medium-sized enterprises, constrained by capital pressure, had an R&D investment proportion of only 1.6% in 2024, which limits their process improvement and product innovation capabilities and makes it difficult to form technological barriers. Data on market expansion capability reflect a cumulative effect: in 2024, leveraging cost and technological advantages, the annual revenue growth rate of large enterprises reached 14.6%, far

exceeding the 9.1% of small and medium-sized enterprises.

6. Conclusion and Discussion

Through theoretical analysis and field investigation, this paper sorts out the elements contained in the core competitiveness of county-level prepared vegetable processing enterprises. The research shows that advanced processing technology, efficient supply chain integration capability, and brand influence with regional characteristics are crucial for enterprises to obtain competitive advantages. To cultivate such competitiveness, enterprises need to promote digital transformation, increase innovation investment in cold chain logistics and food safety control, and integrate craftsmanship into the production process to enhance product added value. The conclusions of this paper have certain practical application value for the upgrading of agricultural industrialization and rural revitalization, and the brand building strategies proposed can provide a reference for enterprises to enhance their core competitiveness.

However, limited by the research conditions, this paper has insufficient representativeness in sample selection and some shortcomings in data timeliness, mainly focusing on the current situation of enterprises in specific regions. On the one hand, it is necessary to strengthen the relationships and trust among entities through the connections of cluster networks; on the other hand, it is essential to foster a shared willingness to co-build regional brands in terms of ideology and cognition, and to enhance the common concepts and shared vision of regional brand building^[6]. Future research could expand the survey scope, adopt more diversified evaluation models, and analyze the intrinsic relationship between changes in the external environment and the evolution of enterprise core competitiveness, thereby providing more accurate theoretical basis and strategic suggestions for the sustainable development of county-level prepared vegetable processing enterprises.

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